

17. (Amended) A method of [expressing 312C2] producing a polypeptide, comprising expressing [a nucleic acid of Claim 9] said vector of Claim 11, thereby producing said polypeptide.

18. (Amended) A cell [, tissue, organ, or organism] comprising said vector [a nucleic acid] of Claim [9] 11.

19. (Amended) A recombinant [nucleic acid comprising sequence at least about 70% identity over a stretch of at least about 30 nucleotides to a 312C2 nucleic acid sequence of SEQ ID NO: 1 or 3] or isolated polynucleotide of Claim 9, that encodes at least 15 contiguous amino residues of SEQ ID NO: 4.

20. (Amended) [A nucleic acid] The polynucleotide of Claim 19, [further encoding a polypeptide comprising at least about 60% identity over a stretch of at least about 20 amino acids to a 312C2 sequence of SEQ ID NO: 2 or 4] wherein said contiguous amino residues number at least 17.

NEW CLAIMS:

Please add new Claims 23-43 as follows:

--23. (New) The polynucleotide of Claim 9, wherein said hybridization occurs over the entire open reading frame of SEQ ID NO: 1.

24. (New) The polynucleotide of Claim 9, wherein said polynucleotide:
a) encodes a polypeptide with a natural sequence of the mature coding portion of SEQ ID NO: 2;
b) encodes a polypeptide with a natural sequence of the mature coding portion of SEQ ID NO: 4;
c) is isolated from nature;
d) encodes a polypeptide comprising 5 or fewer conservative substitutions from a natural sequence of SEQ ID NO: 2; or
e) encodes a polypeptide comprising 5 or fewer conservative substitutions from a natural sequence of SEQ ID NO: 4.

25. (New) The polynucleotide of Claim 9, wherein said wash conditions are
a) at least 65° C;
b) less than 150 mM salt; or
c) both a) and b).

26. (New) A method of producing a polynucleotide duplex comprising contacting said polynucleotide of Claim 9 with a second polynucleotide for a time sufficient to produce said duplex under stringent wash conditions of at least 60° C and less than 200 mM salt; thereby forming said duplex.

27. (New) The polynucleotide of Claim 9, which is:
- a) is attached to a solid substrate;
 - b) is detectably labeled;
 - c) is in a sterile composition;
 - d) encodes an antigenic polypeptide having at least 12 amino acid residues; or
 - e) is synthetically produced.
28. (New) The polynucleotide of Claim 19, which comprises at least 57 contiguous nucleotides from the mature protein coding portion of SEQ ID NO: 1 or 3.
29. (New) The polynucleotide of Claim 27, wherein:
- a) said contiguous amino acid residues number at least 21; or
 - b) said contiguous nucleotides are from nucleotides 26-165 or nucleotides 191-241 of SEQ ID NO: 4.
30. (New) An isolated or recombinant polynucleotide encoding a polypeptide that:
- a) has a conservative amino acid substitution of a mature polypeptide of SEQ ID NO: 2 or 4;
 - b) is a natural allelic variant of the mature native polypeptide of SEQ ID NO: 2 or 4; or
 - c) is a species variant of the mature native polypeptide of SEQ ID NO: 2 or 4.
31. (New) The polynucleotide of Claim 30, which is from SEQ ID NO: 4.
32. (New) The polynucleotide of Claim 30, comprising:
- a) nucleotides 124 to 751 of SEQ ID NO: 1; or
 - b) nucleotides 54 to 723 of SEQ ID NO: 3.
33. (New) A method of producing a polynucleotide duplex comprising contacting said polynucleotide of Claim 30 with a second polynucleotide for a time sufficient to produce said duplex under stringent wash conditions of at least 60° C and less than 200 mM salt; thereby forming said duplex.
34. (New) A recombinant expression or replicating vector comprising said polynucleotide of Claim 30.
35. (New) A cell comprising said vector of Claim 34.
36. (New) A method of producing an antigenic polypeptide, comprising expressing said vector of Claim 34, thereby producing said polypeptide.

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37. (New) A recombinant or isolated polynucleotide that selectively hybridizes to the open reading frame of SEQ ID NO: 1 or 3 under stringent hybridization and wash conditions of at least 50°C, a salt concentration of less than 200 mM, and 50% formamide.

38. (New) The polynucleotide of Claim 37:
a) wherein said wash conditions are at least 60°C;
b) that encodes an antigenic polypeptide;
c) comprises at least 36 contiguous nucleotides of the mature coding portion of SEQ ID NO: 1 or 3; or
d) comprises at least 20 contiguous amino acids of the mature coding of SEQ ID NO: 4

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39. (New) The polynucleotide of Claim 37, further encoding:
a) a two-fold or less conservative amino acid substitution of a mature polypeptide of SEQ ID NO: 2 or 4;
b) a natural allelic variant of the native polypeptide of SEQ ID NO: 2 or 4; or
c) a species variant of the native polypeptide of SEQ ID NO: 2 or 4.

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40. (New) A recombinant expression or replicating vector comprising:
a) said polynucleotide of Claim 37; or
b) the mature polypeptide of SEQ ID NO: 4.

41. (New) A cell comprising said vector of Claim 40.

42. (New) A method of producing an antigenic polypeptide, comprising expressing said vector of Claim 41, thereby producing said polypeptide.

43. (New) A method of producing a polynucleotide duplex comprising contacting said polynucleotide of Claim 37 with a second polynucleotide for a time sufficient to produce said duplex under stringent wash conditions of at least 60°C and less than 200 mM salt; thereby forming said duplex.--

* Remarks

Applicants respectfully request examination of the newly amended claims and reconsideration of the application in view of the following remarks.

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